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EXAMINER	
NAHAR, QAMRUN	

ART UNIT	PAPER NUMBER
2191	

DATE MAILED: 07/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/086,939	ZORC, SAMO	
	Examiner	Art Unit	
	Qamrun Nahar	2191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 April 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,4,6-17 and 19-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,4,6-17 and 19-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the amendment filed on 04/25/2006.

2. The objections to claims 6, 7, 13 and 14 for informalities are withdrawn in view of applicant's amendment.

3. The rejection under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention to claims 1, 3-4 and 6-16 is withdrawn in view of applicant's amendment.

4. Claims 1, 6-7, 13-14 and 30 have been amended.

5. Claims 1, 3-4, 6-17 and 19-30 are pending.

6. Claims 1, 3-4, 6-17 and 19-30 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over Saulpaugh (U.S. 6,792,466) in view of Gupta (U.S. 6,513,059).

Response to Amendment

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1, 3-4, 6-17 and 19-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saulpaugh (U.S. 6,792,466) in view of Gupta (U.S. 6,513,059).

Per Claim 1:

Saulpaugh teaches a method for automatically generating source code for manipulating at least one mark-up language message based on a mark-up language message definition, the method comprising: receiving the mark-up language message definition ("receives ... messages", "messages ... XML" in column 7, lines 36-42); generating a first in-memory representation of the message definition based on the received message definition ("XML Schema" in column 17, lines 7-9); generating a second in-memory representation of a source code based on the first in-memory representation of the message definition ("code ... pre-generated for categories" in column 17, line 10), generating a second in-memory representation comprising generating a schema object tree that includes solutions; wherein the schema object tree includes one or more nodes; wherein the nodes of an associated source object tree are the solutions ("code ... pre-generated for categories" in column 17, line 10; and "**tree ... representation of all services advertised**", "service advertisement matching a particular XML schema" in column 41, lines 46-63; where tree representation of all services advertised matches a particular XML schema); and generating source files based on the second in-memory representation of the source code ("code generated from an XML Schema" in column 17, line 7-9).

Saulpaugh does not explicitly teach generating a schema object tree by employing a blackboard architecture that includes agents; wherein the nodes of the schema object tree are agents. Gupta teaches generating a schema object tree by employing a blackboard architecture that includes agents; wherein the nodes of the schema object tree are agents (column 6, lines 10-18).

It would have been obvious to one having ordinary skill in the computer art at the time of the invention was made to modify the method disclosed by Saulpaugh to include generating a schema object tree by employing a blackboard architecture that includes agents; wherein the nodes of the schema object tree are agents using the teaching of Gupta. The modification would be obvious because one of ordinary skill in the art would be motivated to be able to have agents work across different domains (Gupta, column 2, lines 16-28).

Per Claim 3:

The rejection of claim 1 is incorporated, and Saulpaugh further teaches wherein the first in-memory representation is a schema object tree corresponding to an XML Schema message definition; wherein the schema object tree includes one or more nodes ("tree ... service advertised", "service advertisement matching a particular XML schema" in column 41, lines 46-63).

Per Claim 4:

The rejection of claim 1 is incorporated, and Saulpaugh further teaches wherein the second in-memory representation includes one of class members, class methods, source file object nodes, class object nodes, and source file comment object nodes ("code ... pre-generated for categories (or classes)" in column 17, line 10).

Per Claim 6:

The rejection of claim 1 is incorporated, and Saulpaugh further teaches wherein the second in-memory representation includes elements and attributes; wherein the generating source files based on the second in-memory representation of the source code comprises writing the elements and the attributes into respective Java class source files ("code ... pre-generated for categories (or classes)" in column 17, line 10).

Per Claim 7:

The rejection of claim 1 is incorporated, and Gupta further teaches wherein the generating a source object tree by employing a blackboard architecture comprises performing context sensitive compilation while generating each node of the source object tree (column 5, lines 49-65).

Per Claim 8:

The rejection of claim 7 is incorporated, and Gupta further teaches wherein the performing context sensitive compilation while generating each node of the source object tree comprises performing pre-fix processing (column 5, lines 49-65).

Per Claim 9:

The rejection of claim 7 is incorporated, and Gupta further teaches wherein the performing context sensitive compilation while generating each node of the source object tree comprises performing in-fix processing (column 5, lines 49-65).

Per Claim 10:

The rejection of claim 7 is incorporated, and Gupta further teaches wherein the performing context sensitive compilation while generating each node of the source object tree comprises performing post-fix processing (column 5, lines 49-65).

Per Claim 11:

The rejection of claim 1 is incorporated, and Saulpaugh further teaches wherein the mark-up language is XML (column 7, lines 36-42).

Per Claim 12:

The rejection of claim 1 is incorporated, and Saulpaugh further teaches wherein the mark-up language message definition is an XML schema message definition (column 41, lines 46-63).

Per Claim 13:

The rejection of claim 1 is incorporated, and Saulpaugh further teaches wherein the source code stores information included in at least one XML message (column 7, lines 36-42).

Per Claim 14:

The rejection of claim 1 is incorporated, and Saulpaugh further teaches wherein the source code manipulates information included in at least one XML message (column 7, lines 36-42).

Per Claim 15:

The rejection of claim 1 is incorporated, and Saulpaugh further teaches wherein the method generates a communication API based on an XML schema definition (column 33, lines 10-11).

Per Claim 16:

The rejection of claim 1 is incorporated, and Gupta further teaches automatically parsing context sensitive grammar in the compilation of XML schema to source code (column 5, lines 49-65).

Per Claims 17 & 19-21:

These are system versions of the claimed method discussed above (claims 1, 7, 6 and 12, respectively), wherein all claim limitations also have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also obvious.

Per Claim 22:

This is another version of the claimed method discussed above (claims 1 and 7), wherein all claim limitations also have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, this claim is also obvious.

Per Claim 23:

The rejection of claim 22 is incorporated, and Saulpaugh further teaches generating one or more source code files based on the second in-memory representation of source code ("code ... pre-generated for categories" in column 17, line 10; and "Java code" in column 2, lines 30-44).

Per Claim 24:

The rejection of claim 22 is incorporated, and Saulpaugh further teaches reading a portion of a schema definition that corresponds to one or an element or an attribute from a schema definition file ("XML... arranged elements", "attributes" in column 33 lines 19-26; "... XML schema" in column 40 lines 21-32); constructing a schema object hierarchy based on the read portion ("... XML schema" in column 40 lines 21-32); compiling the object hierarchy into a source object hierarchy (Fig. 12 "schema 154 may be compiled"); and writing the source object hierarchy to one or more object-oriented source files ("Java code" in column 2, lines 30-44).

Per Claim 25:

The rejection of claim 24 is incorporated, and Saulpaugh further teaches schema object hierarchy includes a plurality of objects; wherein each object includes code to compile itself into a source code primitive (Fig. 12 "schema 154 may be compiled").

Per Claim 26:

The rejection of claim 24 is incorporated, and Saulpaugh further teaches source object hierarchy includes a set of objects that represent a predetermined class source file and that has a

predetermined number of members, methods and definitions ("Java objects may include code (the object's methods) ..." in column 82, lines 18-64).

Per Claim 27:

The rejection of claim 24 is incorporated, and Saulpaugh further teaches source object hierarchy includes an object corresponding to a whole source file, an object corresponding to a file declaration comment, an object corresponding to a package name, an object corresponding to import statements, and an object corresponding to class definitions ("Java class" in column 43, lines 54-61; and "Java code" in column 2, lines 30-44).

Per Claim 28:

The rejection of claim 27 is incorporated, and Saulpaugh further teaches the object for class definition includes one of an object corresponding to declaration statement, an object corresponding to specific class member definition, and an object corresponding to method definition ("Java class (XML types) ...", "Types ... defined in XML ... usable in Java ... object oriented language" in column 43, line 54 to column 44, line 12).

Per Claim 29:

The rejection of claim 24 is incorporated, and Saulpaugh further teaches wherein each source object is programmed to write itself into a respective source file (Fig. 12 "schema 154 may be compiled"; and "Java code" in column 2, lines 30-44).

Per Claim 30:

The rejection of claim 29 is incorporated, and Saulpaugh further teaches wherein each source object includes a toString( ) method that recursively calls toString( ) method of its descendants to write itself into a respective source file ("Using the string structures with the recursive processing..." in column 77, line 59 to column 78, lines 46).

Response to Arguments

9. Applicant's arguments filed on 04/25/2006 have been fully considered but they are not persuasive.

In the remarks, the applicant argues that:

a) Saulpaugh fails to teach "generating a schema object tree" as recited in claim 1.

Examiner's response:

a) Examiner strongly disagrees with applicant's assertion that the combination of Saulpaugh and Gupta fails to disclose the claimed limitations recited in claim 1. The combination of Saulpaugh and Gupta clearly shows each and every limitation in claim 1.

Saulpaugh teaches generating a schema object tree ("**tree** ... **representation of all services advertised**", "service advertisement matching a particular XML schema" in column 41, lines 46-63; where tree representation of all services advertised matches a particular XML schema).

In addition, see the rejection above in paragraph 8 for rejection to claim 1.

In the remarks, the applicant argues that:

b) There is no motivation for the combination of Saulpaugh and Gupta.

Examiner's response:

b) The Examiner had provided a motivation in the previous Office Action (Mailed on 10/11/2005, par. 17). However, applicant had failed to point out the error in the motivation provided.

In the remarks, the applicant argues that:

c) Claims 3, 4 and 6-16 are dependent on claim 1 and are deemed allowable by way of their dependence and for other reasons.

Examiner's response:

c) The Examiner has already addressed applicant's arguments regarding claim 1 in the Examiner's Response (a) above. In addition, see the rejection above in paragraph 8 for rejection to claims 3, 4 and 6-16.

In the remarks, the applicant argues that:

d) Claim 17 was rejected on the same grounds as claim 1. Therefore, the applicant incorporates the rebuttals to the rejection of claim 1 into claim 17.

Examiner's response:

d) The Examiner has already addressed applicant's arguments regarding claim 1 in the Examiner's Response (a) above. In addition, see the rejection above in paragraph 8 for rejection to claim 17.

In the remarks, the applicant argues that:

e) Claims 19-21 are dependent on claim 17 and are deemed allowable by way of their dependence and for other reasons.

Examiner's response:

e) The Examiner has already addressed applicant's arguments regarding claim 17 in the Examiner's Response (d) above. In addition, see the rejection above in paragraph 8 for rejection to claims 19-21.

In the remarks, the applicant argues that:

f) Claim 22 was rejected on the same grounds as claim 17. Therefore, the applicant applies the rebuttals to the rejection of claim 17 to this rebuttal to the rejection of claim 22.

Examiner's response:

f) The Examiner has already addressed applicant's arguments regarding claim 17 in the Examiner's Response (d) above. In addition, see the rejection above in paragraph 8 for rejection to claim 22.

In the remarks, the applicant argues that:

g) Claims 23-30 are dependent on claim 22 and are deemed allowable by way of their dependence and for other reasons.

Examiner's response:

g) The Examiner has already addressed applicant's arguments regarding claim 22 in the Examiner's Response (f) above. In addition, see the rejection above in paragraph 8 for rejection to claims 23-30.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication from the examiner should be directed to Qamrun Nahar whose telephone number is (571) 272-3730. The examiner can normally be reached on Mondays through Fridays from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Y Zhen, can be reached on (571) 272-3708. The fax phone number for the organization where this application or processing is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

QN
July 6, 2006

WEI ZHEN
SUPERVISORY PATENT EXAMINER